

## EFFECTS OF SOCIAL CAPITAL AND COMMUNITY SUPPORT ON ONLINE COMMUNITY MEMBERS' INTENTION TO CREATE USER-GENERATED CONTENT

Guoxin Li\*  
School of Management  
Harbin Institute of Technology, China  
[liguoxin@hit.edu.cn](mailto:liguoxin@hit.edu.cn)

Xue Yang  
School of Management  
Harbin Institute of Technology, China  
[yangxue198700@126.com](mailto:yangxue198700@126.com)

Songshan (Sam) Huang  
School of Management  
University of South Australia  
[sam.huang@unisa.edu.au](mailto:sam.huang@unisa.edu.au)

### ABSTRACT

Understanding online community members' intention to create user-generated content (UGC) can help in determining how to better manage online communities. Drawing on social capital theory and adopting the management perspective, this study investigated how online community members' social capital dimensions (*structural, relational, and cognitive*) and community support dynamically influence their intention to create UGC based on two waves of data collection in 2008 and 2014. The results demonstrated that cognitive social capital has a positive influence on members' intention to create UGC in the early stages of online communities and that community support for member communication is an important factor in encouraging members' UGC creation when online communities mature. In addition, the structural and relational dimensions of social capital were found to be non-significant in determining members' intention to create UGC. This finding suggests that members' intention to create UGC may not be dependent on the overall social interaction pattern or on their reciprocity with and trust in other specific individuals. The study provided an in-depth understanding of the roles of social capital and community support in the context of online communities.

Keywords: Social capital; User-generated content (UGC); Community support; Online community

### 1. Introduction

Because of the rapid development of Internet technologies, research on online communities with an emphasis of user-generated content (UGC) has attracted a substantial amount of attention [Shao 2009]. Data from eMarketer indicate that the user-generated content platform has attracted more than 1.61 billion users worldwide and generated more than \$10 billion in advertising revenue as of the end of 2013. Furthermore, the number of users is expected to reach 2.33 billion in 2017 ([www.eMarketer.com](http://www.eMarketer.com)). Typically, online communities facilitate content transmission in which users collaborate to create and share UGC. The sustainability of online communities depends on the willingness of online community members to spend time and effort creating UGC and responding to other members' UGC. In the context of online communities, it is important to understand how to encourage members to continuously contribute to the creation of UGC and to assist other community members in sharing their content [Wiertz & de Ruyter 2007].

Because an online community is a virtual society, it is not surprising that many studies have explored the influence of social capital on individuals' participation behavior in online communities [Hung & Li 2007; Chang & Chuang 2011; Nov et al. 2012]. Social capital refers to the network of relationships possessed by an individual or social unit and the resources embedded within this network [A. Bandura 1986; Putnam 1995]. Wasko and Faraj [2005] indicated that concerns related to social capital are important in motivating individuals' UGC creation

---

\* Corresponding author

behavior in online communities. Similarly, Chiu et al. [2006] studied the influences of social capital on online knowledge sharing. On the basis of interaction among the members in a network, social capital can be classified into three dimensions: structural, relational, and cognitive [Nahapiet & Ghoshal 1998]. Structural social capital indicates the overall pattern of connections between members. Relational social capital focuses on the particular relationships that members have with one another, such as respect and friendship. Cognitive social capital refers to shared language, code, and narratives among members [Nahapiet & Ghoshal 1998]. Tsai and Ghoshal [1998] empirically tested how the three dimensions (structural, relational, and cognitive) of social capital interact with one another in the business units of a multinational company. Some researchers have found that different social capital dimensions have varying effects on online user behavior. For example, Scott et al. [2013] investigated the role of social ties in user content generation in online networks and found that content creation is more convenient for members with strong social ties. Hsu and Hung [2013] explored the interaction effects of paired dimensions of social capital on information system development performance at both the process and product levels. Although extensive research has examined the effects of social capital and its dimensions in online communities in general, little research has focused on dynamic changes in these effects. The present research seeks to extend the literature by exploring the dynamic change of the effect of social capital on individuals' behaviors in an online community. Specifically, using longitudinal data collected from a 6-year period, we aim to study whether three dimensions of social capital (i.e., structural, relational, and cognitive) have a stable and constant influence on members' intention to create user-generated content.

Furthermore, an online community can be regarded as an organization that clearly has management attributes. Successfully operating online communities depend heavily on the instructions and rules offered by the regulators or "elders" and "core" members who play the role of regulators in controlling the information flow and directing the online behavior of other members [Barzilai-Nahon & Neumann 2005]. It is important to identify whether some key administrative factors, such as managers' functional support for the community, affect members' intention to generate content in such communities [Wiertz & de Ruyter 2007]. From the management perspective, the main responsibilities of online community managers include encouraging community members to continually generate content and assisting members in addressing any technical difficulties or problems. Community support reflects how users perceive whether an online community has a favorable and helpful attitude or orientation toward them. According to social exchange theory, a supportive and caring organization will foster individuals' positive feelings and their behavioral intentions [Cropanzano & Mitchell 2005]. However, the effect of online community support created by online community moderators or organizers on members' intention to create UGC has not been sufficiently explored in the literature.

Our research adds to the growing body of literature on user-generated content in two ways. First, we demonstrate how the dimensions of social capital are stably related to UGC creation in the online community context. The investigation of these relationships can advance our understanding of the effective management of social capital in online communities. Second, we predict and find a significant effect of community support on UGC creation. Specifically, supporting member communication is crucial to encouraging members to create content. This research has both a theoretical contribution and practical relevance, aiming to expand the range of possible antecedents of UGC creation in online communities.

## 2. Literature Review and Hypotheses

### 2.1. Social Capital

Social capital refers to the network of relationships possessed by an individual or social unit and the resources embedded within the network [A. Bandura 1986]. Three dimensions of social capital exist: structural, relational, and cognitive [Nahapiet & Ghoshal 1998]. In an online community context, *structural social capital* represents the overall pattern of connections among online community members and is primarily reflected in members' social interaction ties. The social interaction ties of online community members can be understood in terms of the strength of relationships, the amount of time spent interacting with other members, and the frequency of communication with other members. *Relational social capital* refers to the personal relationships that online community members have developed with other members through past and ongoing interactions. Relational social capital exists when members have a high level of trust in others within a community and when they recognize the community's cooperative norms. *Cognitive social capital* refers to shared language, code, and narratives among members [Nahapiet & Ghoshal 1998].

An important function of social capital is its ability to pool, create, and disseminate knowledge [Hung & Li 2007]. Social capital enables an individual to share his or her content and to create new intellectual capital that contributes to building organizational competitive advantages [Nahapiet & Ghoshal, 1998]. Chang and Chuang [2011] explored the factors that affect individuals' participation and knowledge sharing in virtual communities and

found that social interaction and trust have positive effects on the quality (but not the quantity) of shared knowledge. Zhao et al. [2012] found that three dimensions of social capital were positively related to members' participation behavior and mediated by the respondents' sense of belonging to the community. Additionally, the structural dimension was positively associated with the other two dimensions, and the cognitive dimension was positively associated with the relational dimension. Nov et al. [2012] examined what drives individual meta-knowledge contributions on Flickr, a photo-sharing online service platform, and found that all three social capital dimensions positively affect meta-knowledge contributions.

These studies have illuminated our understanding of what drives online community members' participation behavior. However, most studies investigated only the direct causal relationship between social capital and online community members' content generation behavior. The dynamic effects among the various dimensions of social capital on online community members' intention to create UGC have received little attention.

## 2.2. User-generated Content Creation

User-generated content refers to media content that is created or produced by the general public rather than by paid professionals and that is primarily distributed on the Internet [Daugherty et al. 2008]. The literature on UGC can be classified into two streams. The first stream focuses on user characteristics (e.g., motivation) that drive UGC creation. For example, Xu et al. [2012] examined different predictors of online social networking site usage and found that the desire to share information is the most significant motivation to UGC generation. In a study examining online customer reviews and purchase opinions, Hicks et al. [2012] argued that people who read and write reviews are more emotionally involved in social media than those who only read reviews. Specifically, information seeking and entertainment were found to be primary reasons for people to post content online. Berger and Milkman [2012] examined all the New York Times articles published over a three-month period to investigate online content diffusion, and their results indicated that negative content is less viral than positive content. Tang et al. [2012] found that content generated for YouTube is driven by participants' desire for exposure, revenue sharing, and reputation.

The second research stream has focused on how social factors influence the intention to create UGC. Researchers have tested the effect of social capital on content exchange behavior in computer-mediated networks and firm-hosted commercial online communities [Wasko & Faraj 2005; Wiertz & de Ruyter 2007]. It is generally believed an individual's structural social capital influences his or her willingness to contribute content to share with others. Therefore, through close social interactions, individuals are able to increase the depth, breadth, and efficiency of online content exchange [Chiu et al. 2006]. UGC creation in an online community can be reciprocal among members through the interactive process of giving, receiving and repaying useful content. Information-giving behavior can also identify and increase one's self-esteem, status and respect for other information givers. It is postulated that members with a mutual trust and reciprocity attitude, which forms the foundation for relational social capital, will repay an "informational" gift through their own sharing behavior in the future. Furthermore, a community member's cognitive social capital develops as he or she interacts over time with others sharing the same practice and learns the skills, knowledge, specialized discourses, and norms of this practice. Cognitive social capital stimulates members to share more content within an online community. Based on the discussion above, we develop the following hypotheses:

**H1:** *Social capital positively influences online community members' continuous intention to create UGC.*

**H1a:** *Structural social capital positively influences online community members' continuous intention to create UGC.*

**H1b:** *Relational social capital positively influences online community members' continuous intention to create UGC.*

**H1c:** *Cognitive social capital positively influences online community members' continuous intention to create UGC.*

## 2.3. Community Support

In the online community context, community support refers to online community members' perception of a supportive climate within the community. The community climate provides the basis for a sustainable community in which extra effort is noticed and rewarded. Feelings of care and supportiveness are the hallmark of perceived community support, as they indicate to individuals that this community will take care of them and treat them fairly [Eisenberger et al. 1999]. Community support includes support for member communication, recognition and freedom of expression [Kang et al. 2007]. Support for member communication refers to the extent to which an online community provides its members with the means, capabilities, and opportunities to communicate with other members [McWilliam 2000]. For example, supporting member communications by means of bulletin boards, chat rooms, mailing services, member search functions, and special interest discussion forums stimulates more UGC creation and interaction among members, thereby enhancing the opportunity for members to develop close relationships and facilitating individuals' sense of belonging to the community. Recognition of individual contributions refers to the extent to which an online community recognizes the contributions of individual members

[Gruen 2000; Kang et al. 2007]. People show positive affect toward an organization that properly recognizes and provides positive feedback and rewards for their contribution to the organization [Shore & Tetrick 1991]. Freedom of expression refers to the extent that a community facilitates individuals' rights to express diverse opinions. Without freedom of expression, UGC creation would not occur in an online community [Kim 2000]. The freedom to express opinions is another aspect of online community support and represents another important reason for individuals' community participation. Thus, the following hypothesis is proposed:

**H2:** *Community support positively influences online community members' continuous intention to create UGC.*

**H2a:** *Support for member communication positively influences online community members' continuous intention to create UGC.*

**H2b:** *Recognition positively influences online community members' continuous intention to create UGC.*

**H2c:** *Freedom of expression positively influences online community members' continuous intention to create UGC.*

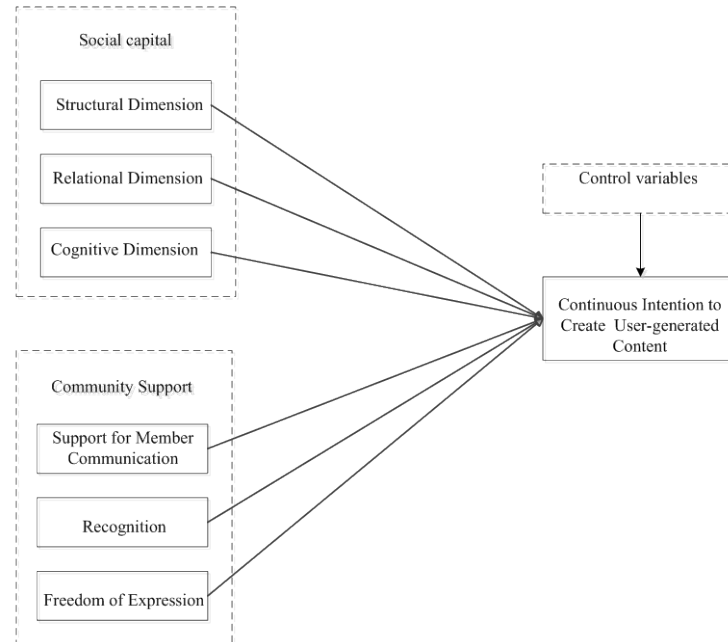


Figure: 1 Research model

### 3. Method

#### 3.1 Measures

Structural social capital represents the strength of the relationships, the amount of time spent in interactions and the frequency of communication with other members of an online community [Chiu et al. 2006]. In this study, we used a four-item measure adapted from Chiu et al. [2006] and Chen [2007] to assess the extent to which members maintain close social relationships and familiar relations with other members, spend time interacting with other members and communicate with other members in the online community.

Relational social capital represents trust in others' ability, benevolence, integrity, and reciprocity. A five-item measure adapted from Chiu et al. [2006] and Wasko and Faraj [2005] was used. This measure intended to reflect norm of reciprocity and mutual trust among members of an online community.

Cognitive social capital embodies the common goals, interests and aspirations of the members of an online community. We adapted a three-item measure developed by Tsai and Ghoshal [1998] to capture members' perceptions of whether other members share the same visions, goals, and values with respect to UGC creation in an online community.

As discussed previously, community support includes three dimensions: support for member communication, recognition of contributions and freedom of expression. We used the four-item scale developed by McWilliam [2000] and modified two items according to Kang [2007] to measure support for member communication. A three-item scale developed by Gruen et al. [2000] was used to measure recognition of contributions. Freedom of expression was measured using a two-item scale developed by Kim [2000].

The intention to create UGC refers to an individual's willingness to continuously participate in the online

community and to create UGC in the future. A four-item measure adapted from Chen [2007] was used to evaluate the intention to visit the online community and to create UGC. All of the constructs and measurement items are listed in Appendix 1.

Considering the potential effects of various demographic variables and community involvement experience on members' creation of UGC, we used gender, age, education and years of membership as control variables in the study.

### 3.2 Research Site

The data were collected from members of a typical online community in Mainland China, pinggu.org, which is one of the largest education websites in China. Founded in May 2004, pinggu.org had nearly 2 million members at the end of 2012. The website provides a vast numbers of forums, blogs and other communication platforms supporting UGC creation. The objective of pinggu.org is to provide an environment in which people who are proficient or interested in economics, management, finance and statistics can create and share UGC with other members. The community provides demographic information about its members.

### 3.3 Data Collection

An online interview via instant messaging with four members and one manager was conducted to modify and clarify the questionnaire items in July 2008. As a result, several items were reworded. Furthermore, a two-stage online pilot test was conducted to assess the reliability of the measurements. The first online pilot test, with a small sample of 30 respondents through SurveyZ.com, showed that those constructs with both positive and negative statements had low reliability levels. This result prompted us to reverse all negative statements to positive expressions. The second pilot test, with another small sample of 30 respondents, demonstrated accepted levels of reliability for the measures.

Two rounds of data collection were implemented in 2008 and 2014 using the same survey instrument. From November 13 to 30, 2008, the first main survey was conducted. An invitation letter with a link to the online questionnaire was posted as a top thread in two of the most popular forums on Pinggu.org. In total, the questionnaire webpage was accessed 1,074 times, and the questionnaire was answered by 520 respondents during the data collection period. After deleting cases with excessive missing data and duplicate answers, the final sample contained 478 usable responses. To verify their online community membership, the respondents were asked to voluntarily indicate their online user names. The respondents' user names were then cross-checked with the existing registration profiles. This precautionary step enabled us to ensure that all respondents were indeed members of the online community. The second round of data collection was conducted using the same process in the three most popular forums on Pinggu.org from February 4 to 24, 2014. The questionnaire was answered by 349 respondents during the data collection period. After deleting cases with excessive missing data and duplicate answers, the final sample contained 308 usable responses.

To eliminate sample bias and achieve a comparable sample size, we randomly deleted some of the sample cases of male respondents, leaving 323 usable responses for the 2008 data. Finally, in the 2008 sample, 57.6% of the respondents were male, and 42.4% were female; 94.7% of them were between 20 and 39 years old. In terms of the respondents' education levels, 47.7% held a bachelor's degree, 43.7% held a master's degree, and 7.7% held a doctoral degree. In the 2014 sample, 58.4% of the respondents were male, and 41.6% were female; 90.9% of them were between 20 and 39 years old. In terms of the respondents' education levels, 36.7% held a bachelor's degree, 35.7% held a master's degree, and 24.0% held a doctoral degree.

## 4. Results

### 4.1. Measurement Validation

We used SmartPLS 2.0, a type of partial least squares (PLS) modeling software, to conduct our analysis. PLS offers both assessment of the measurement model and estimation of the structural model but is less demanding in terms of the sample size and residual distributions [Nambisan & Baron 2010]. Hence, this method was chosen to suit the data analysis needs of the current study. The model parameters were estimated using 500 iterations of the bootstrapping technique. The item reliability, convergent and discriminant validity of the scales were assessed using the guidelines by Fornell and Larcker [1981]. Table 1 presents the means, standard deviations, and factor loadings of all the variables. All the indicator loadings were greater than 0.70, showing sufficient levels of item reliability.

In addition, construct validity was assessed by checking the composite reliability and average variance extracted (AVE) values. All the composite reliabilities were greater than 0.80, and all the AVE values were greater than 0.50. Finally, discriminant validity was examined by comparing the correlations among the constructs and the square root of the AVEs. The result for the 2008 data is shown in Table 2, and the result for the 2014 data is shown in Table 3. For the 2008 sample, the square root values of the AVEs ranged from 0.78 to 0.89, whereas the largest correlation coefficient was 0.66. For the 2014 sample, the square root values of the AVEs ranged from 0.78 to 0.91, whereas the

largest correlation coefficient was 0.64. All diagonal square root values of the AVEs exceeded the inter-construct correlations, thereby indicating sufficient construct validity and discriminant validity for both the 2008 and 2014 samples.

Table 1: Factor Analysis Results

Constructs	2008					2014				
	Mean	SD	Loading	AVE	CR	Mean	SD	Loading	AVE	CR
<i>Structural Social Capital (SSC)</i>										
SSC1	2.71	0.89	0.80	0.66	0.88	2.71	1.01	0.84	0.67	0.89
SSC2	2.75	1.12	0.73			2.75	1.15	0.81		
SSC3	2.67	0.95	0.87			2.66	0.97	0.87		
SSC4	2.60	0.89	0.83			2.59	0.99	0.75		
<i>Relational Social Capital (RSC)</i>										
RSC1	3.36	0.88	0.74	0.61	0.89	3.47	0.84	0.76	0.61	0.89
RSC2	3.28	0.79	0.85			3.39	0.83	0.81		
RSC3	3.58	0.84	0.82			3.62	0.75	0.83		
RSC4	3.04	0.84	0.72			3.14	0.86	0.69		
RSC5	3.46	0.76	0.78			3.53	0.73	0.81		
<i>Cognitive Social Capital (CSC)</i>										
CSC1	3.93	0.70	0.84	0.68	0.86	3.94	0.66	0.84	0.74	0.89
CSC2	3.98	0.68	0.88			4.01	0.64	0.87		
CSC3	3.75	0.74	0.75			3.90	0.69	0.87		
<i>Support for Member Communication (SMC)</i>										
SMC1	4.02	0.75	0.83	0.70	0.90	4.00	0.77	0.81	0.70	0.91
SMC2	3.78	0.78	0.82			3.88	0.76	0.82		
SMC3	3.98	0.73	0.88			4.01	0.67	0.88		
SMC4	3.94	0.71	0.82			4.02	0.64	0.85		
<i>Recognition (RE)</i>										
RE1	4.05	0.73	0.88	0.79	0.92	4.09	0.63	0.85	0.75	0.89
RE2	3.86	0.73	0.89			3.91	0.71	0.87		
RE3	3.96	0.74	0.89			4.03	0.68	0.87		
<i>Freedom of Expression (FE)</i>										
FE1	3.82	0.69	0.90	0.80	0.89	3.85	0.75	0.91	0.83	0.91
FE2	3.65	0.74	0.89			3.74	0.73	0.91		
<i>Continuous Intention to Create User-generated Content (INT)</i>										
INT1	4.14	0.79	0.89	0.77	0.93	4.18	0.66	0.86	0.69	0.90
INT2	3.95	0.81	0.86			4.00	0.77	0.84		
INT3	4.11	0.77	0.90			4.08	0.74	0.81		
INT4	4.23	0.75	0.85			4.21	0.69	0.81		

Table 2: Construct Correlations and Square Root Values of AVEs (2008 Sample)

Constructs	1	2	3	4	5	6	7
SSC	<b>0.81</b>						
RSC	0.14**	<b>0.78</b>					
CSC	0.15**	0.45**	<b>0.82</b>				
SMC	0.16**	0.43**	0.57**	<b>0.84</b>			
RE	0.23**	0.39**	0.54**	0.66**	<b>0.89</b>		
FE	0.26**	0.45**	0.42**	0.51**	0.51**	<b>0.89</b>	
INT	0.14**	0.43**	0.53**	0.55**	0.50**	0.45**	<b>0.88</b>

Note: The diagonal elements are the square root values of the AVEs. The off-diagonal elements are the correlations among the constructs. \*\*: p<0.01

Table 3: Construct Correlations and Square Root Values of AVEs (2014 Sample)

Constructs	1	2	3	4	5	6	7
SSC	<b>0.82</b>						
RSC	0.31**	<b>0.78</b>					
CSC	0.12*	0.45**	<b>0.86</b>				
SMC	0.01	0.26**	0.44**	<b>0.84</b>			
RE	0.20**	0.23**	0.45**	0.64**	<b>0.87</b>		
FE	0.21**	0.31**	0.41**	0.51**	0.57**	<b>0.91</b>	
INT	0.09	0.27**	0.44**	0.59**	0.51**	0.43**	<b>0.83</b>

Note: The diagonal elements are the square root values of the AVEs. The off-diagonal elements are the correlations among the constructs. \*\*:  $p < 0.01$ , \*:  $p < 0.05$

#### 4.2. Hypothesis Assessment

Table 4 shows the results for both the 2008 and 2014 data. Neither structural nor relational social capital was found to have a significant effect on online community members' intention to create UGC given the 2008 and 2014 data. Cognitive social capital was found to have a positive effect on online community members' intention to create UGC for the 2008 sample ( $\beta = 0.27$ ,  $p < 0.05$ ); however, the effect was non-significant for the 2014 sample ( $\beta = 0.16$ ,  $p > 0.1$ ). Support for member communication had no effect on online community members' intention to create UGC in 2008 ( $\beta = 0.20$ ,  $p > 0.1$ ), but it was found to have a significant positive effect on the intention to create UGC for the 2014 sample ( $\beta = 0.38$ ,  $p < 0.01$ ). Recognition and freedom of expression had no significant effects on the intention to create UGC in either the 2008 or 2014 data.

Table 4: PLS Estimates for the Models

Constructs	2008 ( $R^2 = 0.44$ )		2014 ( $R^2 = 0.44$ )	
	$\beta$	t-statistic	$\beta$	t-statistic
Gender	-0.06	0.64	-0.08	0.94
Age	0.13	1.45	0.06	0.64
Education	0.01	0.07	-0.07	0.72
Duration	0.04	0.46	-0.06	0.65
SCC	0.00	0.03	-0.02	0.23
RSC	0.14	1.06	0.07	0.69
CSC	<b>0.27*</b>	2.29	0.16	1.41
SMC	0.20	1.61	<b>0.38**</b>	3.38
RE	0.13	0.93	0.16	1.44
FE	0.11	1.13	0.07	0.56

\*\* :  $P < 0.01$ , \* :  $P < 0.05$

## 5. Discussions and conclusions

### 5.1. Discussions

This study reveals the effects of social capital and community support on online community members' continuous intention to create UGC using two samples from the same community. The empirical results indicate that both social capital and community support had an effect on online community members' intention to create UGC in different stages of online community development. At an early stage of online community development in 2008, cognitive social capital was found to have a direct and positive influence on members' continuous intention to create user-generated content. Thus, when sharing a common vision with other members, individuals have greater intentions to generate content in an online community during the early part of the life cycle of the online community. However, the effect of cognitive social capital on online community members' intention to create UGC declined in a subsequent stage when the online community was further developed. Moreover, structural social capital and relational social capital were not proven to be significant predictors of members' intention to create UGC. These findings suggest that members' intention to create UGC may not be dependent on the overall social interaction pattern or their reciprocity with and trust in other specific individuals. Although online community members can develop social capital through their communications with other members, it is their shared vision (rather than the frequency of communication and reciprocity and trust among members) that encourages members to post information online. Second, support for member communication was found to have a positive effect on members' intention to create content in 2014. This finding indicates that community support is more important in encouraging

members' creation of UGC as an online community matures. In a well-established online community in which members are provided with the means, capabilities, and opportunities to communicate with other members, individuals are more likely to create UGC. Various member communication functions, such as bulletin boards, chat rooms, mailing services, member search functions, and special interest discussion forums, stimulate more UGC creation among members.

### 5.2. Theoretical and Managerial Implications

This study expands our understanding of social capital creation and how social capital can influence members' online UGC creation behavior in the context of online communities. The nascent nature of online communities as a virtual environment of modern social life has made this study more exploratory than explanatory or confirmatory. Our study suggests that the social capital structure that exists in an online community may be quite different from that in offline societal contexts. Further research must be conducted to identify the differences in the social capital structure between the online and offline contexts. Most of the hypotheses in this study were not supported; thus, we cannot assume that what occurs offline can be easily transferred to an online environment. As virtual online communities have been a recent social phenomenon with the development of Web 2.0 technology, what happened with these virtual social spaces cannot be fully understood without further in-depth research.

Practically, the findings of our study suggest that an online community could evolve in different stages, and members' intention to create UGC could be affected by various factors in different community development stages. In an early stage of community development, it is important for the community to establish clearly identified common goals and shared visions to encourage members to create UGC. Online community founders or business operators/managers should ensure that the mission and vision of a community are clearly articulated and communicated when initially creating the online community. However, when entering into a consolidating stage of the online community's development, it appears that the perceived support for community members' communication with one another, rather than a common vision, will further encourage members to create UGC. Once an online community is established, community managers should seek to design or invent more technical platforms (e.g., bulletins, forums, and other social media formats) to encourage members' intention to generate UGC.

### 5.3. Limitations and Future Research

Our study is subject to several limitations that must be addressed here. First, the data for our study were collected from members of a single online learning community. Although pinggu.org is one of the largest social media communities and has 2 million members, it may not be representative of all online communities in China. Furthermore, the results could change in the future. Second, we used subjective measures to assess online community members' social capital dimensions. Although challenging, future research could aim to collect data to measure social capital through observation or through more objective second data. Third, we measured respondents' intention to create UGC as future posting behavior. Future research efforts can be made by observing members' past posting behaviors with the goal of predicting their future posting intentions. As online communities represent a unique but dynamic human social space, this line of enquiry requires further research. Despite the limitations of our research, our findings provide new insights into the dynamic effects of social capital and community support on online community members' continuous intention to create UGC.

### Acknowledgments

The authors would like to thank Mrs. Fei Ni and Mrs. Wenying Zheng for their data collection efforts. Gratitude is also owed to Mr. Jianyi Zhao, the manager of Pinggu.org, for supporting the online survey and awarding forum credits to the respondents who participated in the survey. This research was funded by a grant from the National Natural Science Foundation of China (Grant No. 71272173).

### REFERENCES

- Bandura, A. *Social Foundations of Thought and Action: A Social Cognitive Theory*, NJ, Englewood Cliffs: Prentice-Hall, 1986.
- Barzilai-Nahon, K. and S. Neumann, "Bounded in Cyberspace: An Empirical Model of Self-regulation in Virtual Communities," *Proceedings of the 38th Hawaii International Conference on System Sciences (HICSS 2005)*, IEEE Publication, Hawaii, pp.192b-192b, 2005.
- Berger, J. and K. Milkman, "What Makes Online Content Viral?" *Journal of Marketing Research*, Vol. 49, No.2: 192–205, 2012.
- Chang, H. H. and S.-S. Chuang, "Social Capital and Individual Motivations on Knowledge Sharing: Participant Involvement as a Moderator," *Information & Management*, Vol. 48, No.1:9–18, 2011.



- Chen, I. Y. L. "The Factors Influencing Members' Continuance Intentions in Professional Virtual Communities a Longitudinal Study," *Journal of Information Science*, Vol. 33, No.4:451–467, 2007.
- Chiu, C.-M., M.-H. Hsu, and E. T. G. Wang, "Understanding Knowledge Sharing in Virtual Communities: An Integration of Social Capital and Social Cognitive Theories," *Decision Support Systems*, Vol.42, No.3:1872–1888, 2006.
- Cropanzano, R. and Marie S. Mitchell, "Social Exchange Theory: An Interdisciplinary Review," *Journal of Management*, Vol. 31, No.6: 874–900, 2005.
- Daugherty, T., M. S. Eastin, and L. Bright, "Exploring Consumer Motivations for Creating User-Generated Content," *Journal of Interactive Advertising*, Vol. 8, No.2: 1–25, 2008 .
- Eisenberger, R., L. Rhoades, and J. Cameron, "Does Pay for Performance Increase or Decrease Perceived Self-determination and Intrinsic Motivation? " *Journal of personality and Social Psychology*, Vol.77, No.5:1026–1040,1999.
- Fornell, C. and D. Larcker, "Evaluating Structural Equation Models with Unobservable and Measurement Error," *Journal of Marketing Research*, Vol. 18, No.1:39–50,1981.
- Gruen,T.W., John O. Summers, and A. Frank, "Relationship Marketing Activities, Commitment, and Membership Behaviors in Professional Associations," *Journal of Marketing*, Vol. 64, No.3: 34–49, 2000.
- Hicks, A., S. Comp, J. Horovitz, M. Hovarter, M. Miki, and J. L. Bevan, "Why People Use Yelp.com: An Exploration of Uses and Gratifications," *Computers in Human Behavior*, Vol. 28, No.6:2274–2279, 2012.
- Hsu, J. S.-C.and Y. W. Hung, "Exploring the Interaction Effects of Social Capital," *Information & Management*, Vol. 50, No.7:415–430, 2013.
- Hung, K. H. and S. Y. Li, "The Influence of eWOM on Virtual Consumer Communities: Social Capital, Consumer Learning, and Behavioral Outcomes," *Journal of Advertising Research*, Vol.47, No.4:485–495, 2007.
- Kang, I., K. C. Lee, S. Lee, and J. Choi, "Investigation of Online Community Voluntary Behavior Using Cognitive Map," *Computers in Human Behavior*, Vol. 23, No.1:111–126, 2007.
- Kim, A. J. Community Building on the Web: Secret Strategies for Successful Online Communities, Berkeley, CA: Peachpit Press, 2000.
- McWilliam, G. "Building Stronger Brands through Online Communities," *Sloan Management Review*, Vol. 41, No.3:43–54, 2000.
- Nahapiet, J.and S. Ghoshal, "Social Capital, Intellectual Capital, and the Organizational Advantage," *The Academy of Management Review*, Vol. 23, No.2:242–226,1998.
- Nambisan, S. and Robert A. Baron, "Different Roles, Different Strokes: Organizing Virtual Customer Environments to Promote Two Types of Customer Contributions," *Organization Science*, Vol. 21, No.2: 554–572, 2010.
- Nov, O., C. Ye, and N. Kumar, "A Social Capital Perspective on Meta-knowledge Contribution and Social Computing," *Decision Support Systems*, Vol. 53, No.1:118–126, 2012.
- Putnam, R. D. "Bowling alone American's Declining Social Capital," *Journal of Democracy*, Vol.6, No.1:65–78,1995.
- Scott, K., Shriver, Harikesh S. Nair, and R. Hofstetter, "Social Ties and User-Generated Content Evidence from an Online Social Network," *Management Science*, Vol. 59, No.6:1425–1443, 2013.
- Shao, G."Understanding the Appeal of User-generated Media: A Uses and Gratification Perspective," *Internet Research*, Vol. 19, No.1: 7–25, 2009.
- Shore, L. and L. Tetrick, "A Construct Validity Study of the Survey of Perceived Organizational Support," *Journal of Applied Psychology*, Vol. 76, No.5:637–643,1991.
- Tang, Q., B. Gu, and A. B. Whinston, "Content Contribution for Revenue Sharing and Reputation in Social Media: A Dynamic Structural Model," *Journal of Management Information Systems*, Vol.29, No.2:41–76, 2012.
- Tsai, W and S.Ghoshal, "Social Capital and Value Creation: The Role of Intrafirm Networks," *The Academy of Management Journal*, Vol. 41, No.4:464–476,1998.
- Wasko, M. and S. Faraj, "Why Should I Share? Examining Social Capital and Knowledge Contribution in Electronic Networks of Practice," *MIS Quarterly*, Vol. 29, No.1:35–57, 2005.
- Wiertz, C. and K. de Ruyter, "Beyond the Call of Duty: Why Customers Contribute to Firm-hosted Commercial Online Communities," *Organization Studies*, Vol.28, No.3:347–376, 2007.
- Xu, C., S. Ryan, V. Prybutok, and C. Wen, "It is not for Fun: An Examination of Social Network Site Usage," *Information & Management*, Vol. 49, No.5:210–217, 2012.
- Zhao, L., Y. Lu, B.Wang, P. Y. K. Chau, and L. Zhang, "Cultivating the Sense of Belonging and Motivating User Participation in Virtual Communities: A Social Capital Perspective," *International Journal of Information Management*, Vol. 32, No.6:574–588, 2012.

**APPENDIX 1: STUDY CONSTRUCTS AND MEASUREMENT ITEMS**

<i>Structural Social Capital (SSC)</i>	
SSC1	I maintain close social relationships with some of the members of Pinggu.org.
SCC2	I know some of the members of Pinggu.org.
SSC3	I have frequent communication with some members of Pinggu.org.
SSC4	I spend a great deal of time interacting with some members of Pinggu.org.
<i>Relational Social Capital (RSC)</i>	
RSC1	Members of Pinggu.org will not take advantage of others even when the opportunity arises.
RSC2	Members of Pinggu.org will always keep their promises to one another.
RSC3	Members of Pinggu.org would not knowingly do anything to disrupt a conversation.
RSC4	Members of Pinggu.org behave in a consistent manner.
RSC5	Members of Pinggu.org are truthful in dealing with one another.
<i>Cognitive Social Capital (CSC)</i>	
CSC1	Members of Pinggu.org share the vision of helping others to solve their professional problems.
CSC2	Members of Pinggu.org share the same goal of learning from each other.
CSC3	Members of Pinggu.org share the same value that helping others is pleasant.
<i>Support for Member Communication (SMC)</i>	
SMC1	The VC provides an effective bulletin board for participants to communicate.
SMC2	The VC provides various means to support member communication, such as a chat room, e-mail service, member search service, and game.
SMC3	The VC supports various events for members to experience together.
SMC4	The VC provides various supports for members to get together.
<i>Recognition (RE)</i>	
RE1	The VC provides proper rewards to active members for their efforts.
RE2	The VC provides strong support for various active member activities.
RE3	The VC shows proper gratitude to actively participating members.
<i>Freedom of Expression (FE)</i>	
FE1	The VC proactively embraces negative discussions or opinions about the brand from members.
FE2	The VC positively addresses complaints about the brands or other services from members.
<i>Continuous Intention to Create User-generated Content (INT)</i>	
INT1	I intend to visit Pinggu.org more often.
INT2	I intend to post more on Pinggu.org.
INT3	I intend to spend more time reading posts on Pinggu.org.
INT4	I intend to participate in Pinggu.org in the future.